

**REMARKS**

The Examiner objected to Figure 1. A replacement Figure 1 is attached. The “12” with the arrow has been removed.

Claims 1 and 22 were objected to for informalities. The proposed corrections have been made.

Claims 4 and 18 were rejected pursuant to 35 U.S.C. § 112, second paragraph. Claim 4 has been amended to depend from claim 1. Claim 4 is clear, such as in the context of Fig. 4. “Demultiplexed” has been removed from claim 18, so claim 18 is clear.

Claims 1, 22, and 23 were rejected pursuant to 35 U.S.C. §103(a) as unpatentable over Hunt (US 2003/139664) alone or in view of Erikson (US 6,752,763). Claims 2, 4, 6, 9, 10, 12, 14-17, 19, 20 and 24 were rejected pursuant to 35 U.S.C. §103(a) as unpatentable over Hunt or Hunt in view of Erikson in further view of Leavitt (US 6,491,634). Claim 3 was rejected pursuant to 35 U.S.C. §103(a) as unpatentable over either Hunt or Hunt in view of Erikson in view of Leavitt and further in view of Chiang (US 5,839,442). Claim 5 and 22 was rejected pursuant to 35 U.S.C. §103(a) as unpatentable over Hunt or Hunt in view of Erikson in further view of Peterson (US 2004/0181154). Claims 11 and 18 were rejected pursuant to 35 U.S.C. § 103(a) as unpatentable over Hunt or Hunt in view of Erikson, in view of Leavitt and further in view of Peterson.

Applicant respectfully requests reconsideration of the rejections of claims 1-6, 9-12, 14-17, and 19-24, including independent claims 1, 9, 16 and 22.

Independent claim 1 recites converting in a connector housing releasable from the ultrasound system, a cable connecting the transducer probe housing with the connector housing.

A person of ordinary skill in the art would not have provided these limitations. The Examiner cites to the corded connection between the ultrasound device 12 and the display device 14, alleging releasable connection as obvious. However, given this construction, the conversion would not occur in the connector housing releasable from the ultrasound system (display 14 as cited to by the Examiner). The Examiner cites to the ADC 36 for conversion, noting this circuit is in the housing 16. The housing 16 is part of the device 12 (see Fig. 1), not the display 14. There is no suggestion to provide the ADC in any connector housing of the cord cited to in paragraph 61. In other words, the Examiner cites to the housing 16 as the releasable connector,

but cites to a cord from the system 12 in the housing 16 from paragraph 61 to the display 14. Any releasable connector housing separated by this cord cannot be the housing 16, but would be by the display 14. The ADC would not be positioned in a connector housing for releasable connection with the display 14 on the other end of the cord from the housing 16, but would be at the other end of the cord and where taught - in the housing 16.

The housing 16 may be divided into two probe housings separated by a cord (paragraph 28). Neither is a connector housing. Paragraph 61 then uses another cord to connect to the display 14. This is the allegedly releasable connection to the system. However, there is no conversion circuit such a releasable connector to the display 14.

Erikson does not solve this problem. Erikson teaches a releasable connector housing 324, but does not teach conversion in the housing 324. Erikson is cited by the Examiner merely for teaching releasable connection. As noted above, Hunt, even if providing such releasable connection at the end of the cord for connecting to the display 14, does not provide for conversion in such the releasable connector housing.

Independent claim 9 recites a transducer assembly comprising a connector housing at least partially enclosing a detachable connector and enclosing a signal processing device where the connector housing connects to the transducer by a cable external to the connector housing between the connector housing and the transducer.

Claim 9 is allowable for similar reasons as claim 1. Even if the cited cable (paragraph 61) of Hunt has a releasable connector, the electronics for beamformation are in the housing 16 on the other end of the cable from any releasable connector at the display 14. Even given separation of components into multiple housings, there is no teaching that a releasable connector with the display device include any beamformation.

Independent claim 16 is allowable for the same reasons as claim 1.

Independent claim 22 is allowable for similar reasons as claim 9.

Dependent claims 2-6, 10-12, 14-15, 17, 19-21, and 23-24 depend from one of the independent claims, so are allowable for the same reasons as the respective base claim. Further limitations patentably distinguish from the cited references.

Claim 4 recites partial beamformation of demixed signals. Hunt teaches multiplexing, but does not suggest partial beamformation of demultiplexed signals.

Claim 6 recites that the converting is mixing. Summing is not mixing. Claim 12 is allowable for similar reasons.

Claim 17 recites sub-array mixing. In Leavitt, the multiplier 690 is for normalization of filter gain for a delayed sample (col. 10, lines 2-31), not sub-array mixing.

**CONCLUSION:**

Applicant respectfully submits that all of the pending claims are in condition for allowance and seeks early allowance thereof.

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